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AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM

(THROUGH 16 NOVEMBER 1967)

NOVEMBER 1967

S-2607/AP4A

Prepared Jointly by
The Central Intelligence Agency
and
The Defense Intelligence Agency



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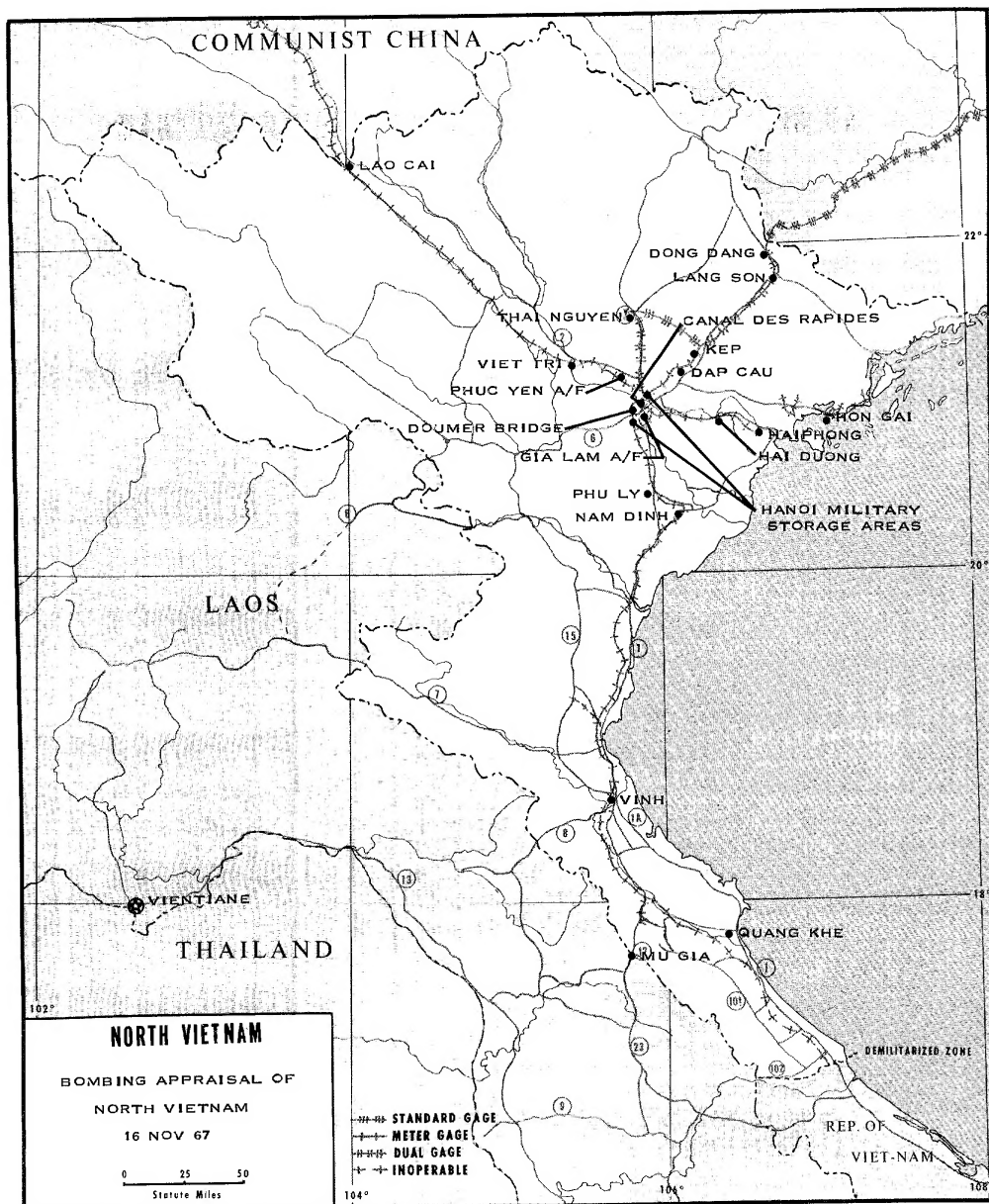
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AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM (THROUGH 16 NOVEMBER 1967)

FOREWORD

This report is prepared on a monthly basis at the request of the Secretary of Defense for an evaluation of certain effects of the ROLLING THUNDER program. The report covers three general areas of concern: Effects on Military Targets; Leadership and Public Reactions; and Effects on the NVN Economy. The discussion of political effects is limited to those developments within North Vietnam which relate to Hanoi's attitude toward continuing the war and the effects the ROLLING THUNDER attack has on civilian morale in North Vietnam.

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AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM
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SUMMARY

1. (S/NFD) Unseasonably good weather in the northern part of the country in late October permitted a marked increase of effort against key targets near Hanoi, Haiphong, and throughout the north-east area. Poor weather in southern North Vietnam restricted strike activity in the Panhandle during the entire period. The general capability of the transportation network declined. The interdiction of the two key Hanoi bridges over the Canal des Rapides and the Red River effectively disrupts through rail traffic to Hanoi from Haiphong, Lao Cai, Dong Dang, and Thai Nguyen.* These interdictions, in conjunction with the road and rail interdictions around Haiphong, have created the most serious disruptions to date, forcing the use of alternate modes to permit the movement of goods. Significant strikes were also conducted against Phuc Yen and other jet airfields.

2. (S/NFD) On the Hanoi-Haiphong rail line through rail traffic to and from the port area remained interdicted at the Haiphong Railroad/Highway Bridge for the entire reporting period. Analysis of photographs suggests little or no movement of rail traffic from the port area in Haiphong since September, but that shuttle service is available to the

* Photographs of 17 November revealed the Hanoi Highway/Railroad Bridge over the Canal des Rapides is serviceable for at least limited truck traffic and that the Doumer Bridge is being repaired.

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Hanoi area. Barge traffic in the port and on principal waterways clearing the port has been heavy and suggests greater reliance on waterway transport to move goods from the port. All of the permanent highway bridges leading out of Haiphong remained interdicted during the period. There were at least 10 ferries and pontoon bridges available to circumvent the interdicted bridges.

3. (S/NFD) Damage and destruction to transport equipment increased slightly over the low levels reported in September, but were still significantly lower than the record levels reported during the summer period. Aerial photography of 18 October revealed a total of 2,079 units of railroad rolling stock confirming that replacements for losses are being received. Nearly 1,700 units were located in the sanctuaries within Hanoi, Haiphong, and the buffer zone contiguous to the Chinese border.

4. (S/NFD) Seeding of MK-36 influence bombs increased during the month, particularly along lines of communication between Hanoi and Haiphong, Hanoi and Lao Cai, and in coastal estuaries of major inland water routes. Indications of MK-36 effectiveness were reported on three occasions during the period. Boats were reportedly sunk in the Haiphong area and north of Vinh. A barrier was reportedly erected by the North Vietnamese across Route 1A near Vinh shortly after the highway was reseeded, suggesting rerouting.

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5. (S/NFD) Restrikes on electric power facilities, including the Hanoi powerplant, held the availability of electric power to a low level. Only about 20 per cent of North Vietnam's total electric generating capacity is currently estimated to be operating. The severity of damage to remaining plants in the network, with the exception of Viet Tri, will deny even partial operation for periods ranging from three months to one year, after repair work is resumed. In most cases complete restoration will require more than a year. The increased volume of bulk food imported during October apparently is to offset the below normal rice harvest. Because of adverse weather, lower acreage planted and disruptions caused by the bombing, it is likely that the current rice harvest will be 200,000 to 300,000 metric tons below average -- about equal to last year's tenth month crop deficit.

6. (S/NFD) Identified seaborne exports increased from 10,600 metric tons in September to 25,200 metric tons in October, still well below the 53,300 ton monthly average for the first nine months of 1967. A slight reduction in average layover times for freighters leaving Haiphong was observed for the month of October -- 19 days as compared with a revised estimate of 20 days in September and a peak of 33 days in August. This was probably due to a combination of lower import levels and use of offloading facilities at Hon Gai. Ships carrying flour and rice continue to experience the shortest turn-around-times, while those with general cargoes experience the longest.

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7. (S/NFD) Attacks against critical railroad/highway bridges on the lines of communication servicing Hanoi and Haiphong have created the most serious problems in the distribution of military and economic supplies to date. Disruption and dislocation of normal transportation patterns have caused delays and greater use of less efficient modes of transport. Because the logistics requirements are modest, however, the North Vietnamese still retain the capability to support activities in South Vietnam and Laos at present or increased combat levels. The cumulative effects of the airstrikes have degraded North Vietnam's capability for sustained large-scale conventional military operations against South Vietnam.

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Effects on Military Targets

1. (S/NFD) Air attacks in North Vietnam during late October and early November continued to concentrate on the transportation, electric power, and air defense systems. Unseasonably good weather in the northern part of the country in late October permitted a marked increase of effort against key targets near Hanoi, Haiphong, and throughout the northeast area. Poor weather hampered operations in the northeast during November. Weather in southern North Vietnam restricted strike activity in the Panhandle during the entire period. The general capability of the transportation network declined with the successful interdiction, in late October, of the two important Hanoi railroad/highway bridges over the Red River and the Canal des Rapides, which had been damaged in mid-August and repaired by late September. Initial attacks were executed against Phuc Yen airfield and two major military storage areas near Hanoi. POL storage, military barracks, supply depots, surface-to-air missile sites, powerplants, shipyards, radars, and transshipment areas were also struck.

2. (S/NFD) Rail service into Hanoi which had been partially restored by early October was again disrupted when the railroad/highway bridges over the Red River and the Canal des Rapides were interdicted on 25 and 27 October, respectively. The interdiction of these two key bridges in the Hanoi area effectively disrupts through rail traffic to

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Hanoi from Haiphong, Lao Cai, Dong Dang, and Thai Nguyen. This requires the North Vietnamese to transship supplies to motor vehicles and use the various highway bypasses, transship to watercraft that can move on the extensive inland waterway net, or shuttle freight cars across the river by using the rail ferries available at each bridge. A recent report stated that there was bumper-to-bumper traffic on Route 3 because of delays at the Canal des Rapides Bridge. While these methods of operation are less efficient than through rail service, the alternates available can handle the volume of diverted traffic in the Hanoi area. These interdictions, in conjunction with the road and rail interdictions around Haiphong, however, have created the most serious disruptions, to date, in the movement of supplies.

3. (S/NFD) In Haiphong, through rail traffic to and from the port area remained interdicted at the Haiphong Railroad/Highway Bridge for the entire reporting period, but there are indications that the North Vietnamese are engaged in efforts to construct a rail bypass bridge. Analysis of photography suggests little or no movement by rail from the main Haiphong rail yard or from the west end of the main wharf since September. All of the permanent highway bridges on routes leading out of Haiphong remained interdicted during the period, but there were at least 10 ferries and pontoon bridges available to bypass these interdictions. There was increased truck traffic on Route 5 and

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Route 10 leading out of Haiphong. A Western traveler reported almost bumper-to-bumper traffic moving very slowly on Route 5 near Hanoi.

4. (S/NFD) Waterborne logistic craft activity in the Haiphong port area continues to increase. This trend was first noted after the initiation in mid-September of efforts to interdict land lines of communication leading from Haiphong. Barge traffic in the port and on principal waterways in the immediate area has been heavy and suggests greater reliance on waterway transport to move goods out of the port. The North Vietnamese continue to be plagued with the silting problem in the Haiphong area. Shippers have reportedly been requested to send ships with drafts of 22 feet or less to North Vietnam. Depths alongside wharves have reportedly decreased as much as three to five feet and some ships berthing alongside rest on the bottom at low tide.

5. (S/NFD) The Hanoi-Haiphong rail line was attacked intermittently during the reporting period, with the rail facilities at Hai Duong receiving major emphasis. Available ferries and moveable spans in the immediate vicinity of the bridges, as well as rail freight cars observed near these bypass facilities in late October, indicate that some movement takes place.

6. (S/NFD) On the Dong Dang line in addition to the key interdictions near Hanoi, targets attacked included the rail bridge at Dap Cau and Lang Son, and the rail yards at Kep, Lang Dang, and Dap Cau.

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Photographs indicate the main bridges at Dap Cau and Lang Son were unserviceable, but serviceable bypasses were available. The destroyed bridge at Viet Tri on the Lao Cai line continues to limit through rail service to the northwest portions of the country. The rail line south of Hanoi is not useable to through service to Vinh, but shuttle operations continue between interdicted bridges or heavily damaged yards. Railroad rolling stock reported destroyed and damaged increased in October compared to September. Aerial photography of 18 October revealed a total of 2,079 units of rolling stock confirming that replacements for losses are being received. Nearly 1,700 units were located in the sanctuaries within Hanoi, Haiphong, and the buffer zone contiguous to the Chinese border.

7. (S/NFD) A possible new railroad line in the early stages of construction was detected during October. The alignment of initial ground scarrings indicates that the line will connect the Hon Gai port area to Kep and the rail network. Recent developments in and around the environs of Hon Gai may presage the use of the port as a supplement to the more congested offloading facilities at the port of Haiphong. During October two dry cargo ships proceeded to Hon Gai, apparently to unload cargo, after waiting two or three days at the outer anchorages of Haiphong. Photographic coverage of the port in late October showed one ship offloading at the wharf and three

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others grouped 600 - 1,000 yards away in the anchorage. These developments, plus a highway under construction from Haiphong to the China border, would suggest that the Hon Gai area is being developed.

8. (S/NFD) Truck sightings and damage were lower as poor weather conditions hampered flight operations. With improved weather toward the latter part of the month, sightings of large truck convoys increased sharply, especially along Route 1A near Phu Ly, at the junction of Routes 21 and 10 near Nam Dinh, and on routes near Quang Khe. Large convoys continued to be sighted moving toward Laos along Route 15 near the Mu Gia Pass, along Route 137, and along Route 7.

9. (S/NFD) Throughout the country the number of waterborne logistic craft reported destroyed was at a level comparable to September while the number reported damaged increased -- still considerably lower than the record levels attacked during the summer months. An indication of a probable change in coastal movement patterns from Haiphong was noted. Photography of 4 October showed 11 POL barges off-loading two tankers in the Haiphong approach; on 7 October, three pilot sightings reported the movement of 11 POL barges on estuaries south of Haiphong, indicating that some southbound

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movement may be transferred from the inland waterways to coastal waterways.

10. (S/NFD) Seeding of MK-36 influence bombs increased during the month, particularly along lines of communication between Hanoi and Haiphong, Hanoi and Lao Cai, and in coastal estuaries of major inland water routes. Nearly all key bridges and ferry crossings in the area between Hanoi and Haiphong have been seeded to impede water traffic, use of the various bypass facilities, and construction work on lines of communication. Indications of MK-36 effectiveness were reported on three occasions during the period. [REDACTED]

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[REDACTED] several "steam boats" in the Haiphong port market area were sunk by delayed-action bombs. Another source reported that in an estuary north of Vinh several delayed-action bombs detonated causing water spouts and that on the following day a junk was sunk in the vicinity, resulting in subsequent increased water security patrol activity to keep boats away from the seeded areas. Analysis of the results of MK-36 bombs on a segment of Route 1A in early September indicated that truck traffic decreased sharply after seeding. Subsequent reseeded six weeks later resulted in the North Vietnamese placing a barrier across the road, suggesting a rerouting of truck traffic.

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11. (S/NFD) Initial strikes were made on Phuc Yen and Cat Bi airfields in October. During the strikes of 24 and 25 October at Phuc Yen, two MIG-21s were destroyed, three MIG-21s and seven MIG-17s damaged, runways and taxiways interdicted and support facilities destroyed and damaged. Limited runway serviceability was probably restored on 28 October. Restrikes on 5 November cratered the runway. It is estimated, however, that limited operations are possible by using the taxiway as a runway. As a result of recent strikes against Phuc Yen, the in-country MIG sanctuary is now limited to Gia Lam Airfield. This has caused disruptions in the fighter air defenses. Initial strikes were also conducted against two large military storage areas; the Hanoi Storage Area, Gia Thuong and the Hanoi Storage Area, Bac Mai, that jointly contain nine per cent of the national military storage capacity.

12. (S/NFD) The North Vietnamese air defenses were characterized by intense and aggressive reactions to the increased ROLLING THUNDER activity in the northeast. During the period over 30 US aircraft were lost throughout North Vietnam -- nine to SAMs, one to MIG aircraft, and the remainder either to antiaircraft artillery or to unknown causes. SAM activity increased with 530 noted. Between 17 October and 13 November there were 17 MIG engagements with two US aircraft downed and two MIG-21s and seven MIG-17s confirmed destroyed in air combat.

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Photography of 4 October revealed nine Swatow Class PGM gunboats and three Shanghai Class PFTS deployed along the banks of the Red River and the Canal des Rapides near Hanoi. It is probable these boats were moved inland to bolster air defenses near key targets.

13. (S/NFD) Antiaircraft artillery continued to be the primary air defense weapon system throughout the country and was instrumental in downing most of the US aircraft lost. Analysis of AAA deployments indicate a significant shift with marked upswings in the deployments in southern North Vietnam. The level of firing activity in this area suggests substantial increases in the number of 85/100-mm guns. The AAA order of battle confirms 1,438 guns south of Vinh -- approximately 20 per cent of the inventory. This indicates that with the oncoming bad weather in the north, the North Vietnamese are strengthening defenses in the south to oppose US air attacks.

14. (S/NFD) Surface-to-air missile activity in the DMZ area continues. On 29 October, three to four SAMs were fired at a flight of B-52s, the second such incident. No damage was inflicted, although Hanoi was quick to issue a claim that one B-52 had been shot down. Forty-two B-52 sorties were conducted against supply storage and vehicle areas on Route 15 north of Mu Gia Pass.

15. (S/NFD) Attacks against critical railroad/highway bridges on the lines of communication servicing Hanoi and Haiphong have created the most serious problems in the distribution of military and economic

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supplies to date. Disruption and dislocation of normal transportation patterns have caused additional delays and greater use of less efficient modes of transport. Because the logistics requirements are modest, however, the North Vietnamese still retain the capability to support activities in South Vietnam and Laos at present or increased combat levels. The cumulative effects of the airstrikes have degraded North Vietnam's capability for sustained large-scale conventional military operations against South Vietnam.

Leadership and Public Reactions

16. (S/NFD) The North Vietnamese leadership's apparent determination to continue the war was reiterated in official statements made in conjunction with the celebration of the 50th anniversary of the Bolshevik Revolution. In praising the Soviet Union, Hanoi officials expressed their gratitude for Soviet assistance which "is helping the Vietnamese people press on to final victory." Party First Secretary Le Duan, speaking before the Supreme Soviet on 3 November, reiterated that settlement of the war must be based on the four points of the DRV and the political program of the Liberation Front.

17. (S/NFD) Morale in the North appears to be holding up rather well, although it was reported during recent intensified strikes

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in the Hanoi area that there were instances of momentary panic. Some discouragement is evident in recent reports. For example, a high level North Vietnamese diplomat in Paris, Mai Van Bo, reportedly told a [REDACTED] about to visit Hanoi that he might find some malcontent there. Mai Van Bo said that there was always a "fringe of dissatisfied people" who were discouraged and critical. Other recent reports from Hanoi have pointed to the calm manner in which the populace has adjusted to the air raids and the Vietnamese ability to keep their composure while going to air raid shelters. There have been no indications that difficulties associated with the bombing have been sufficient to force the regime to alter its policy on the war.

Effects on the Economy

18. (S/NFD) The interdiction of the two key bridges in the Hanoi area added to North Vietnam's economic difficulties. Restrikes on electric power facilities, including the Hanoi powerplant, inflicted additional damage and held the availability of electric power to a low level. The increased volume of bulk food imported during October apparently is to offset the below normal rice harvests.

19. (S/NFD) Only about 20 per cent of North Vietnam's total electric generating capacity is currently estimated to be operating. Within the main power grid, only about 7 to 10 per cent of prestrike capacity, or 10,000 to 15,000 kw, is believed to be serviceable. Of

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the nine powerplants and one key substation in the main grid, all but two, Hanoi and Nam Dinh powerplants, are known to be out of service. Restrikes during the period were carried out against four powerplants -- Hanoi, Nam Dinh, Uong Bi, and Hon Gai -- and the substation at Dong Anh. The Hanoi powerplant currently is estimated to be operating at 30 to 50 per cent of installed capacity. Continuous efforts undoubtedly will be made to restore additional capacity. The results of an October restrike at Nam Dinh -- which had been put into partial operation in September -- are not known. The severity of damage to remaining plants in the network, with the exception of Viet Tri, will deny even partial operation for periods ranging from three months to one year, after repair work is resumed. In most cases complete restoration will require more than a year. Repairs in evidence at the Viet Tri powerplant have progressed to the point where partial operation may soon commence. There is evidence of an intention to fragment the central power grid and to forego extensive reconstruction of powerplants. This is suggested in the removal of transformers from a number of network substations and the lack of repair activity at some heavily damaged powerplants. Some powerplants have remained unchanged from the immediate post-strike conditions for periods up to six months.

20. (S/NFD) The harvesting of the tenth month rice crop -- which contributes about two-thirds of North Vietnam's total annual rice output -- has begun and the regime has called for an all out effort to

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finish the harvest rapidly and to prepare for the next fifth month crop. This year's tenth month harvest is behind schedule because of delays in planting caused by adverse weather. To ensure an adequate supply of manpower to harvest the current crop, and to plant the next crop the regime has called for the use of nonfarm labor, such as students, cadre, evacuees, and members of the armed forces, to supplement the main labor force of the cooperatives. Because of adverse weather, lower acreage planted and disruptions caused by the bombing it is likely that the current rice harvest will be 200,000 to 300,000 metric tons below average -- about equal to last year's tenth month crop deficit.

21. (S/NFD) The partial evacuation of Hanoi and Haiphong may have caused the dislocation of over 400,000 persons during the past two years. The urban area of Hanoi contained about 475,000 people in January 1965, while the urban area of Haiphong contained about 220,000. A report in mid-June of this year stated that one-half of Hanoi's population, mostly children and old people, had moved to areas between 10 and 60 kilometers from the city. Haiphong has been reported as much as 75 per cent evacuated. Evacuees have, for the most part, found it difficult to obtain proper food, employment, shelter, and other necessities.

22. (S/NFD) During the reporting period attacks against dispersed tank and drum sites probably resulted in the loss of small amounts of petroleum. Identified imports of petroleum during October amounted to 12,500 metric tons -- an increase of 7,000 metric tons over imports in

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September but still significantly below the total average monthly volume of 19,700 metric tons observed to date in 1967. Consumption during the month is estimated to have been about 19,500 metric tons. Stocks on hand at the end of October amount to 55,000-60,000 metric tons -- about 90 days of supply at current monthly consumption rates.

23. (S/NFD) Identified seaborne imports of all commodities increased 18 per cent over September to 88,500 metric tons, but were nearly 25 per cent below the average monthly volume of 113,500 metric tons imported during the first nine months of 1967. The volume of bulk food imports increased to 58,000 metric tons, more than twice the September total, and well above the monthly averages for 1967. There were no imports of fertilizer during the month for the first time since the inception of the bombing program in 1965.

24. (S/NFD) Identified seaborne exports increased from 10,600 metric tons in September to 25,200 metric tons in October, still well below the 53,300 ton monthly average for the first nine months of 1967. An increase in the amount of coal exports during October to 14,900 metric tons resulted from an increase in shipments from Cam Pha -- 6,500 metric tons compared with 1,100 metric tons in September. Coal shipments from Cam Pha, however, remain relatively small -- amounting to only about 10 per cent of the average monthly volume of coal exports from the port during 1966. Apparently the quality of the exported coal has also suffered and in at least one case the coal reportedly

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had not been washed sufficiently to meet standards. There continued to be no identified seaborne exports of apatite, cement, or pig iron.

25. (S/NFD) A slight reduction in average layover times for freighters leaving Haiphong was observed for the month of October -- 19 days as compared with a revised estimate of 20 days in September and a peak of 33 days in August. A combination of lower import levels in recent months and the use of offloading facilities at Hon Gai probably accounts for the small improvements in congestion at Haiphong during October. Ships carrying flour and rice continue to experience the shortest turn-around-times, while those with general cargoes experience the longest.

26. (S/NFD) Cumulative measurable damage attributable to the Rolling Thunder Program through October is estimated at \$372 million (see Tab B). In addition to these measurable losses, there continues to be many other losses to both the economy and the military establishment which cannot be assigned meaningful values.

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SECRET-NO FOREIGN DISSEMRESULTS OF STRIKES ON NVN TARGETS ^{a/} THRU 11 NOVEMBER 1967

TABLE 360

Fixed Targets	Total Targets ^{c/}		Targets Struck		^{e/} No. of Attacks	^{b/} Strike Sorties	% of National Capacity Destroyed or inactive because of air strikes
	National Capacity (X 1000)	JCS ^{d/} Targeted No. %	No.	%			
Barracks	443 men	65 41.08	58	35.9	396	3172	26.86
Ammo Depots	112.6 MT	18 100	18	100	116	1385	77.0
POL Storage *	133.5	13 100	13	100	91	756	87.7
Supply Depots	10550 SqFt	29 42.48	26	31.2	92	925	18.98
Power Plants	192 KW	20 92.1	15	85.8	111	848	81.6
Maritime Ports	8.2 ST/DY	9 97	7	48	30	292	13.5
RR Yards	49.7	4 78	3	54	88	623	26.8
RR Shops		3 88	2	68	5	38	27.1
Industrial:							
Explosive Plant	1 MT	1 100	1	100	20	126	100
Iron & Steel	300MT(PIG)	1 100	1	100	24	281	100
Cement Plant	600 MT	1 100	1	100	1	57	100
Total Targets							
Airfields	23	12**	10**	81	93	1452	34.6
Naval Bases	15	5	4	57	30	295	30.4
Bridges	1561	61	58		552	5301	75.0
Commo Install	55	5	2		2	15	20
Radar Sites	210	5	5		78	456	87.5
SAM Sites	221		58		12	388	
Locks & Dams	94	8	2	38.6	2	10	38.6
Ferries	160		11		7	44	

* JCS targets only; does not include dispersed storage

Total Sorties: 15,277

** Includes non-JCS numbered
Hoa Lac Airfield

Armed Recce Sorties
179,125

Results ^{f/}

	Destroyed	Damaged
Vessels	9,172	16,847
Vehicles	5,789	4,978
RR Stock	1,687	2,855

- ^{a/} Assessments are based on best information received, will be refined as more accurate information becomes available.
- ^{b/} Strike plus flak suppression sorties. Some applied to multiple targets; in this summary assigned to principal target.
- ^{c/} These columns are not additive, since the number of installations, both targeted and struck in some cases, apply to more than one category of targets (i.e., barracks, supply and ammo depots).
- ^{d/} Percentages of national capacity where appropriate.
- ^{e/} Also numerous attacks during armed recce and other missions.
- ^{f/} Also numerous installations, AA sites, bridges, etc., attacked and road and rail cuts made.

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TAB A

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Value of Economic and Military Damage
Attributed to the ROLLING THUNDER Program
1965 Through October 1967

<u>Economic Facilities and Equipment</u>		<u>Military Facilities and Equipment</u>	
<u>Direct Losses</u>	<u>Million US \$</u>	<u>Direct Losses</u>	<u>Million US \$</u>
Railroad/Highway Bridges	31.7 <u>a/b/</u>	Barracks	30.0 <u>a/</u>
Transportation Equipment	71.2	Ammunition Depots	5.3 <u>a/</u>
Electric Power Plants	31.7 <u>a/</u>	Motor Vehicle Depots and	
Petroleum	7.5	Supply Area Depots	9.8 <u>a/</u>
Manufacturing Facilities	17.9	Airfields	1.4 <u>a/</u>
Railroad Yards and Shops	6.1 <u>a/</u>	Radar and Communications	
Maritime Ports and Shipyards	2.6 <u>a/</u>	Sites	2.9
Miscellaneous Armed Recon-		SAM Sites	6.3
naissance	2.2	Naval Bases	1.9 <u>a/</u>
		Aircraft	41.6
SUBTOTAL, Direct Losses	170.9	Naval Craft	4.8
		Miscellaneous Armed	
		Reconnaissance	16.9
		TOTAL, Direct Losses	120.9
<u>Indirect Losses</u>			
Exports	31.5		
Agriculture <u>c/</u>	39.5	<u>Total</u>	
Fishing	9.5	<u>Million US \$</u>	
		Economic	251
SUBTOTAL, Indirect Losses	80.5	Military	121
		TOTAL	372 <u>d/</u>
TOTAL, Direct and			
Indirect	251.4		

- a/ Estimate is incomplete because of inadequate post-strike photography.
- b/ Of the total, \$5.8 million is estimated to have been expended to date on the repair of damaged and destroyed bridges and \$25.9 million is estimated for complete restoration in the future of bridges damaged or destroyed. In addition, \$1.6 million would be required to make temporary repairs to presently unrepai red bridges.
- c/ It should be noted that losses of agricultural crops are arbitrarily attributed entirely to the indirect effects of the bombing. An unknown part of these losses is in fact due to weather and other natural causes.
- d/ Excluding the cost of trucks destroyed and damaged in Laos and economic and military facilities and equipment destroyed and damaged by US naval operations along the coast of southern North Vietnam.

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AN APPRAISAL OF THE BOMBING OF NORTH VIETNAM

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ACDA	1 Cy
CHAIRMAN, JCS	1 Cy
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J-1	1 Cy
J-3	2 Cys
J-4	1 Cy
J-5	1 Cy
J-6	1 Cy
SACSA	1 Cy
NMCC	3 Cys
ARMY:	
CHIEF OF STAFF	2 Cys
DCSOPS	1 Cy
ACSFOR	1 Cy
ACSI	1 Cy
ACSI-CI	1 Cy
ACSI-Eastern	1 Cy
STAG	1 Cy

SECRET—NO FOREIGN DISSEM

NAVY:

CHIEF OF NAVAL OPERATIONS	2 Cys
DNI	1 Cy
OP-921E	1 Cy
OP-922Y1	1 Cy
OP-922Y2	1 Cy
OP-92B1	1 Cy

AIR FORCE:

CHIEF OF STAFF	2 Cys
ACS,I/USAF	1 Cy
AFNINDE	8 Cys
AFNIEBB	1 Cy
AFISI (Spec Investigation)	1 Cy
AUL (Air Univ Library)	1 Cy

MARINE CORPS:

COMMANDANT	1 Cy
G-2	1 Cy

CINCPAC	2 Cys
CINCPACAF	10 Cys
CINCUSARPAC	1 Cy
CINCPACFLT	1 Cy
COMUSMACV	2 Cys
7AF	2 Cys
COMSEVENTHFLT	1 Cy
COMATKCARSTRIKEFORSEVENTHFLT (CTF 77)	1 Cy
CINCLANT	1 Cy
CINCSRIKE	1 Cy
CINCSAC	1 Cy
SAC 544	1 Cy
CINCTAC	1 Cy
AFSTRIKE	1 Cy
CONTIC	1 Cy
CINCALCOM	1 Cy
CINCEUR	1 Cy
CINCUSAREUR	1 Cy
CINCUSAFE	1 Cy
CINCNAVEUR	1 Cy
CINCCONAD	1 Cy
CIA	125 Cys
ARMED FORCES STAFF COLLEGE	1 Cy
DIA	35 Cys

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